Ann Allergy Asthma Immunol 112 (2014) 290–295

Contents lists available at ScienceDirect

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A 37-year-old man referred for assistance with persistent asthma, atopic dermatitis, and chronic conjunctivitis

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ARTICLE INFO

Article history:
Received for publication September 3, 2013.
Received in revised form November 21, 2013.
Accepted for publication December 13, 2013.

INSTRUCTIONS

Credit can now be obtained, free for a limited time, by reading the review article in this issue and completing all activity components. Please note the instructions listed below:

- Review the target audience, learning objectives and all disclosures.
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Release Date: April 1, 2014
Expiration Date: March 31, 2016
Estimated Time to Complete: 60 minutes
Target Audience: Physicians involved in providing patient care in the field of allergy/asthma/immunology
Learning Objectives:
At the conclusion of this activity, participants should be able to:

- Discuss the various signs and symptoms of chronic eye allergy
- Summarize available therapeutic options as well as possible ocular complications related to the management of atopic keratoconjunctivitis (AKC)

Accreditation: The American College of Allergy, Asthma & Immunology (ACAAI) is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.
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Disclosure of Relevant Financial Relationships:
L. Bielory is owner/partner in STARx Centers; M.S. Tankersley, and G.D. Marshall have no relevant financial relationships to disclose. Reviewers and Education/Editorial staff have no relevant financial relationships to disclose. The off-label/investigative use of various treatments for atopic keratoconjunctivitis (AKC) is discussed.
Recognition of Commercial Support: This activity has not received external commercial support.

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1081-1206/14/$36.00 - see front matter
http://dx.doi.org/10.1016/j.anai.2013.12.018

Introduction

The allergist or clinical immunologist will successfully review the case of a chronic form of allergic conjunctivitis in a patient with atopy and (1) recognize the common signs and symptoms of chronic eye allergy and (2) appreciate the ocular complications from ongoing treatment for atopic disorders.

Clinical Vignette

A 37-year-old man is referred to the allergy service for assistance with his persistent asthma, eczema, and chronic conjunctivitis.

Since childhood, his asthma and allergic rhinitis has been well controlled with an inhaled corticosteroid, long-acting β-agonist therapy, and intranasal corticosteroids. He has had multiple courses of oral corticosteroids but was never admitted to the hospital. While living in Italy, his eczema and asthma had been controlled, but he had seasonal exacerbations of chronic red eyes, tearing, droopy upper eyelids (at times with a glassy appearance), nasal congestion, and a runny nose that never completely resolved. His symptoms became worse during college. His visual acuity decreased after graduating, and he currently works in an accounting department with more than 8 hours a day of computer work. He uses antihistamines continually to control his sneezing. He has increased ocular discomfort, has started to squint constantly, and has mild blurring of vision and increasing sensitivity to light without pain.

The patient's ophthalmologist noted increased curvature of the left cornea with mild keratitis. The ophthalmologist has been treating him for the past 12 years because he has had increasing involvement of scaling around both eyes that has led to crusting on the eyelids, involving the eyelashes. He recently started using over-the-counter ocular lubricants on a regular basis because his eyes have started to feel gritty. He states that the "itch" is extremely bothersome, and constantly rubs his eyes and frequently has to blink.

The patient also has a stringy mucus discharge treated with multiple courses of topical corticosteroids. Baseline intraocular pressure was 16 mm in the left eye and 22 mm in the right eye with some lens opacification in the posterior pole of the right eye after topical treatment with limited injection. His eczema has required ongoing oral steroid treatment. He has developed a progressive ropey ocular discharge in the morning. The patient has increasing complaints of eczema, and his asthma has started to require increasing doses of inhaled bronchodilators.

Family History

The patient was born in Italy and moved at 8 years of age to the United States. His father has asthma; his brother and sister have atopic dermatitis; his parents and several siblings have allergic rhinoconjunctivitis; and his mother and maternal grandmother have glaucoma. Cataracts had developed in the 2 sets of grandparents.

Physical Examination

There is increased redness and swelling around both eyes and cheeks, with increased creases below his eyes and a peculiar absence of the lateral eyebrows with eyelids that are slightly asymmetrical. There is thickening of both lids with redness, fissuring, and swelling (Fig 1). The conjunctiva has diffuse fine areas of pinhead-shaped and pinhead-sized lesions of the upper and lower tarsal conjunctiva, diffuse multiple blood vessels and increased thickness of the clear portions of the conjunctiva, and a white stringy semisolid thread of white mucus in the inferior fornix. The upper right eyelid touches the iris, with the left upper eyelid touching the pupil.

The ophthalmologist's records note small areas of epithelium loss from the cornea with the application of fluorescein staining. There are white lines running across the inside portions of the lower palpebral portion of the conjunctiva. There is noted thinning of the eyelashes, with some that appear to be turning inward and irritating the ocular surface.

The nasal mucosa is pale and boggy, with a stringy nasal opaque to yellow mucus covering the posterior oropharynx. The ears demonstrate cerumen partly occluding the left tympanic membrane. There are no pretragal or submental nodes. The lung examination is significant for mild bilateral end-expiratory wheezes with a prolonged expiratory phase of respiration; no nasal flaring or accessory muscle use is appreciated. Skin examination is significant for thickened, pigmented skin in the antecubital fossa. The rest of the physical examination is normal.

Testing

The patient's white blood cell count was 7,800 cells/mm^3 with 1,260 eosinophils/mm^3 compared with 10,100 cells/mm^3 with 220 eosinophils/mm^3 6 weeks previously on 40 mg of prednisone. Total serum IgE was 836 IU/mL. Eosinophils and neutrophils in the H&E stained stringy exudate from the eye. Spirometry demonstrated a forced expiratory volume in 1 second of 74% (83% after using the bronchodilator). Delayed skin tests to candida and tuberculin did not show reactivity at 24, 48, and 72 hours. Skin prick testing showed normal, immediate responses to histamine and saline, with minimal reactions to grass and weed pollen and moderate reactions to oak, maple, and birch. There was strong reactivity to dust mite.

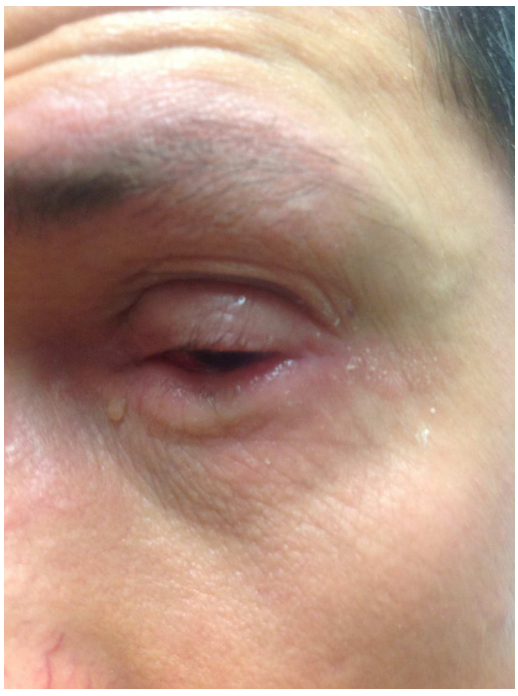

Figure 1. This patient has increased redness and swelling around the eyes and cheek, with increased creases below his eyes and a peculiar absence of the lateral eyebrows (de Hertoghe sign), with eyelids that are slightly asymmetrical. There is a loss of eyelashes and swelling along the rim of the eyelid, indicative of madarosis and blepharitis, respectively. Although not seen in this photograph, many patients with chronic forms of conjunctivitis associated with eosinophilic infiltration can develop Horner-Trantas dots (points) that contain eosinophils and neutrophilic debris along the limbus of the eye.